HARNESSING THE UNIVERSAL COSMIC ENERGY

Realising that we exist in a boundless sea of cosmic energy, scientists like Crookes, Tesla and Moray experimented with devices that would tap this primal source.

Part 1 of 2

by Gavin Dingley © 2001

Sunningdale
Manningford Bruce
Near Pewsey, Wiltshire SN9 6JL
United Kingdom
Telephone: +44 (0)1672 562808
Email:
gavin.dingley@tesla-research.ukf.net
Website: www.tesla-research.ukf.net

TESLA'S INSIGHTS ON RADIANT ENERGY AND HOW TO TAP IT

> Ere many generations pass, our machinery will be driven by a power obtainable at any point of the universe. This idea is not novel. Men have been led to it long ago by instinct or reason. It has been expressed in many ways and in many places in the history of old and new. We find it in the delightful myth of Antheus, who derives power from the Earth; we find it among the subtle speculations of one of your splendid mathematicians and in many hints and statements of thinkers of the present time.
>
> Throughout space there is energy. Is this energy static or kinetic? If static, our hopes are in vain; if kinetic—and this we know it is, for certain—then it is a mere question of time when men will succeed in attaching their machinery to the very wheelwork of nature.

This statement was made by Dr Nikola Tesla (1856–1943) during the delivery of his lecture to the Institute of Electrical Engineers in London in 1892. This profound insight came not long after he had given an extensive description of what he referred to as *cosmic rays*—a phenomenon that was not officially discovered until some 30 years later.

It is well known that Tesla intended to transmit electrical energy through the Earth so that it could be tapped as free energy from any point on the globe. However, the great scientist had a dream of tapping into an energy source that has been present since the birth of the universe, an energy that permeates all space and time. Although he was sure that the energy existed and could be tapped, he was not entirely sure how this could be done. Nevertheless, in the same lecture, Tesla went on to say that a device for tapping this sea of energy had already been discovered. He said:

> Of all, living or dead, Crookes came nearest to doing it. His radiometer will turn in the light of day and in the darkness of night; it will turn everywhere where there is heat, and heat is everywhere.

The radiometer is a simple instrument that clearly demonstrates that light has momentum, and that this momentum can be imparted onto macroscopic matter to render it as useful energy. The instrument consists of four vanes mounted on a pinpoint vertical support. Each vane is coated on one side with black paint, while the other side is silvered. The whole assembly is then encapsulated in an evacuated glass bulb. When light falls upon this device, the vanes turn rapidly, thus converting radiant energy into mechanical energy. The secret to its operation is quite simple, yet it is the first device to harness this primal energy.

Light can be described as corpuscular in nature; specifically, it can be thought of as being composed of particles, namely photons. This means that a ray of light can be described as a beam of particles or photons, and like any other particle they carry momentum. How this momentum is transferred to any matter in its path depends on the target matter.

In the case of the radiometer, the atoms of the black paint, which coats one side of the vanes, absorb the light particles; while on the other side of the vanes, where there is a silver coating, the photons simply reflect, imparting some of their momentum or energy onto that surface of the vanes. This imbalance of forces—that is, the absorption on one side and reflection on the other—results in rotational motion: a radiant energy motor.

However, Tesla went on to say that the radiometer, although important in its concept, was perhaps one of the most inefficient energy converters ever invented. Crookes's radiometer relied on the mechanical interaction between light particles and matter. Tesla had discovered through his own work with radiant energy lamps that there was a subtler link between matter and light which would prove more efficient; this link was electricity.

The link between the electrical force and light had been theorised by Maxwell, while such scientists as Crookes and Lord Kelvin had extensively investigated the electrical nature of matter. Tesla now intended to bring these two together to form a simple yet useful technology.

US patents nos. 685,957 and 685,958 describe Tesla's apparatus for receiving radiant energy from the natural medium. A capacitor is connected to earth via a metal conductor inserted into the ground. The other terminal of the capacitor is connected to a metal plate of large surface area and raised high off the ground. While the plate is continuously being bombarded by radiant energy, it becomes electrically charged. This charge is then stored in the capacitor as it tries to find a path to ground. Across the capacitor there is a switching mechanism and the load that is to be powered. The switching mechanism periodically discharges the capacitor's energy into the load, turning the radiant energy into usable DC electricity.

The link between the electrical force and light had been theorised by Maxwell, while such scientists as Crookes and Lord Kelvin had extensively investigated the electrical nature of matter.

It is not known if Tesla ever tested this invention, although he does allude to the fact that it had been tested in principle. It is more likely that he developed it along the lines of his particle beam device or death ray. Specifically, he had developed a means of transmitting electrical energy via a particle beam; this was probably the energy receiver he was intending to use. This application of the radiant energy receiver is clearly cited in his patent, which explores the use of both ionising radiation, such as ultraviolet and X-rays, and particle beams, referred to as *Lenard rays*.

To employ this apparatus to utilise naturally occurring radiant energy would require an elevated metal plate of such a large surface area as to render it impractical. The principle behind Tesla's radiant energy receiver is well founded, as most people who own a car will have felt the effect. On a hot summer's day, most at some point will have received an electrostatic shock when they open the car door. This is because naturally occurring radiant energy accumulates an electrical charge on the large surface area of the car body. This charge does not leak away, as the car body is well insulated from the ground by the insulating tyres. It is only when an earthed object, such as an unsuspecting driver, approaches it that the charge instantaneously discharges to ground, hence the shock.

FORMS OF RADIANT ENERGY

At this point it may be worth explaining exactly what radiant energy is and how it is naturally generated. Basically, radiant energy can come in one of two different forms: electromagnetic waves or streams of high-velocity particles. In practice, it is only electromagnetic waves in the ultraviolet band and higher, or electrically charged particles such as ions, protons, electrons and some of the other more exotic members of the quantum zoo.

A ray of radiant energy can make many transitions as it passes through space and interacts with ambient matter. Atoms, the building blocks of physical matter, are composed of a positively charged nucleus surrounded by negatively charged electrons. Normally there are enough electrons to balance out the positive charge of the nucleus, thus forming an electrically neutral atom. If, however, an electron is removed from the atom, then an imbalance of electrical charge will be created, making the atom positively charged; the atom is now an ion. If this occurs throughout the majority of atoms in a gas, then the gas becomes what is known as *plasma*.

Any mechanism that removes electrons from their parent atoms can cause the ionisation of matter. This is a characteristic of all usable radiant energy. High-velocity particles can impart some of their momentum onto the orbiting electrons of atoms; this tends to give the electrons enough energy to break away from their parent nuclei.

Among the most common interactions are those involving light particles, or photons. When a photon enters an atom, it imparts some of its energy onto an orbiting electron. If the energy is comparatively small, then the electron will simply jump to a higher orbit but still remain coupled to the nucleus. After a small period of time, the electron will return to its original orbit by emitting a photon to dispose of the excess energy. This is the mechanism behind the operation of a laser.

Electromagnetic waves or photons can only cause the ionisation of matter at wavelengths much shorter than those of visible light. It is only photons in the ultraviolet band and higher that have enough energy to cause electrons to be liberated from their parent nuclei. This effect is known as the *photoelectric effect*, where a metal conductor manages to gain and lose charge when exposed to electromagnetic radiation. Its theoretical explanation won Albert Einstein the Nobel Prize several years later, yet Tesla had already utilised the effect as described. At wavelengths in the X-ray and gamma ray bands, the photons have enough energy to cause the multiple ionisation of atoms as they pass through matter; it is this that makes them so dangerous. Higher still in the electromagnetic spectrum there are wavelengths that are even more energetic, holding such a quantum punch that they are able to cause the complete breakdown of atomic structure. These are known as *cosmic rays*.

If the energy imparted onto an electron is great enough, the electron may not only break away from the nucleus but also have sufficient energy to cause the ionisation of another atom. This is known as *secondary emission*, and it plays a major role in most plasma formations. As electrons and other charged particles can be accelerated by electric fields, it is possible to cause the liberation of electrons, or ionisation, through electricity. This can be done in one of two ways: either an intense electric field is made to pass through the matter to be ionised; or a charged particle stream is accelerated to high velocities, via an electric field, before being made to strike the target matter. The latter process is the basis of Tesla's death ray and other particle beam weapons.

Tesla's radiant energy receiver, as described above, was designed specifically to intercept high-energy particles from outer

space; the connection to earth gave the capacitor the necessary electronegative charge. To derive energy from ionising electromagnetic radiation (i.e., employing the photoelectric effect), this requires an electropositive charge from an artificial source such as a battery. Even though a battery is used, it never discharges, and so the apparatus remains a free energy device.

Tesla cited the Sun as the main source of radiant energy to be received by his free energy apparatus; however, he did not think it was the only source, for he stated that the apparatus operated as well at night as it did during the day. The Sun is no less than a giant hydrogen bomb whose instantaneous detonation is taking 10 billion years. This mass of nuclear fire emits a vast sea of charged particles and ionising radiation, from ultraviolet through to high-energy cosmic rays.

However, in the depths of the universe there are other processes taking place that produce radiant energy of such great magnitude that they simply bullet through the planet. Collapsing stars perhaps make up for the greater part of this energy; burning their last few billion tonnes of fuel, they collapse, emitting vast amounts of radiant energy. The inverse square law prevents us from being destroyed by the intensity of this radiation, but the individual particles still reach us. They literally pass through the Earth, ionising any atom that stands in their path; in fact, in most cases the atoms are completely obliterated.

A single photon of cosmic radiation can travel across the vast stretches of space and strike our atmosphere, causing a massive burst of high-energy, charged particles. Megawatts of electrical power are poured into particle accelerators to try to witness this sort of energy in an instant, but this is nothing compared to the energy received from massive bodies collapsing several hundred light years away.

Tesla cited the Sun as the main source of radiant energy to be received by his free energy apparatus ...

It is these rays that appear in the night, and which Tesla wanted to harness through his free energy receiver. However, it was to be another pioneering individual who would find the true secret behind the harnessing of this cosmic energy: Dr Thomas Henry Moray (1892–1972).

MORAY'S RADIANT ENERGY RECEIVER

The story of T. Henry Moray is one of deceit and suppression, but also of a marvellous discovery that remains a secret to this day. Moray was born, raised and lived most of his life in the vicinity of Salt Lake City, Utah, USA. Born into a Mormon family, his mother Swedish and his father Irish, he grew up learning the ways of the Latter Day Saints.

From an early age he was interested in all things electrical, and he hoped to steer his future career in this direction. However, his mother did not agree with his ambitions and preferred him to take up a profession in the world of business. So when he left school, he enrolled in a business course held at the old Latter Day Saints College. At the same time, he managed to study electrical engineering to some extent by correspondence. Armed with his qualifications in business and basic electrical engineering, Henry Moray bought with some of the family's remaining money a share in the Independent Electrical Company. Initially it looked a good deal in which he had a controlling position, but due to the dishonesty of others the deal collapsed and all the money was lost.

In 1912, Moray was sent to Sweden to do missionary work on behalf of the Latter Day Saints. While there, he was able to complete a doctorate in electrical engineering, through examination, at the University of Uppsala. After returning from Sweden in 1914, Moray managed to secure several engineering positions, and during this time he married Ella Ryser. However, while working on a special project involving interference on telephone lines, Moray had a serious accident that greatly impaired his vision. Without compensation from the company involved, and being partially incapacitated, Moray had financial difficulties in the years following 1921. He eventually found a talent in chicken farming around 1923, a business that he found very lucrative as he specialised in rare breeds of poultry. This situation allowed him more time to developing his radiant energy apparatus.

Moray started his investigations into radiant energy in his early adult life, and carried on developing the technology up until his last remaining years. He faced much suppression and deceit while he tried giving his invention to the world. Around 1929 he started to demonstrate his device publicly to individuals from scientific and commercial backgrounds. The device in question was only a seed of what he was later to develop, yet right away he faced opposition. The individuals concerned either wanted the radiant energy technology or wanted to stop its development; either way, they made Moray's life very difficult. There were some who honestly wanted to help him in his goal, but most of them were frightened off in one way or another. His workshop and home were often broken into, and on one occasion his equipment was destroyed. Both he and his family received threatening phone calls and later were even shot at. In the end, Moray was forced to have his car fitted with bulletproof glass and to carry a pistol.

Moray gave thorough demonstrations, showing the assembled engineers, scientists and industrialists the inside of the radiant energy device in its entirety. He also showed them diagrams and allowed them to suggest any particular experiment to prove the authenticity of what he was presenting. Most went away amazed, proclaiming that Moray had discovered something unique and of great importance.

He was promised many contracts to help develop the technology further (including one from NASA in 1961), but they always seemed to fall through because of intervention from a third party. On one occasion he was offered help from the Russian Government, but for some strange reason he found himself meeting the representative in the main Washington office of General Electric. This sort of thing happened quite often: industrialists giving Moray the run-around with cloak-and-dagger tactics.

There is no doubt that the radiant energy device worked. The testimony of various individuals who observed it first hand, as well as the drastic actions carried out against Moray, are proof enough to encourage one to investigate the technology further.

The actual device appears to be as strange and elusive in detail as the science upon which it was developed. Moray's discovery was by no means a product of accident but, instead, of a search for what he felt intuitively existed: a limitless source of energy coming from or to the planet. It certainly was not the first, nor would it be the last, but Moray's work stands as a milestone in the search for free energy.

Originally Moray felt that this energy came directly from the Earth and that it could be tapped from the ground. So his first

insights developed from a simple set-up: namely, a long wire aerial and a stake in the ground. With this, he was able to listen into the subtle pulsations of the Earth. However, this was nowhere near his dream of tapping into a sea of energy.

Initially he thought that the energy he was listening to was electrostatic—a product of the Earth's movement of charge between the ground and the atmosphere, a flow of charge equal to 1,800 amperes. However, Moray soon came to the conclusion that the energy was oscillatory and not electrostatic in nature. Not only this, but he discovered that the energy was not coming *from* the Earth but *to* it, for it was cosmic in origin.

The Swedish Stone Circuit

This new direction led to investigations that were based upon the principles of the crystal set, one of the earliest forms of radio receiver. In these bygone radio sets, a piece of crystal, usually galena (lead sulphide ore), was used to turn the RF energy into audio-frequency electrical currents; that is, they extracted the broadcast from the radiowave. Moray focused his attention on the crystal component of his apparatus. He searched for the best crystal to be used as the detector in his modified crystal set.

It was not until he was sent on a mission to Sweden by his Mormon brethren that he finally found what he was looking for. In his notebook, in an entry dated 1 November 1913, Moray wrote:

> ...obtained material from a railroad car at Abisco, Sweden, the previous summer and material from the side of a hill ... this soft, white stone-like substance might make a good valve detector.

Not only this, but he [Moray] discovered that the energy was not coming *from* the Earth but *to* it, for it was cosmic in origin.

Moray often referred to certain components of the radiant energy device as *valves.* This was because he felt that his device did not capture energy but, rather, acted as a pump. It would be like saying that a water pump redirects the flow of water, while a bucket captures it. Moray's device merely redirected the flow of energy through a load so that it could be made use of; after that it would return to where it originated. Specifically there is a continuous flow of energy between the planet and the rest of the cosmos, and Moray only wanted to dip his "water wheel" into this massive torrent of flowing energy—the primary principle behind the radiant energy receiver. So, like a water pump, the apparatus required valves to open and close in the process of redirecting this flow; the detector valve was such a component.

In another notebook entry, dated 13 November 1913, he wrote:

> ...time early this morning to test the stone again. Hard to buy any wire and stuff to make coils. Used cardboard tube to work on. Batteries of no help in priming. Got hard rubber Widstens from Wilsons, and bought some silk and pure wool cloth to use as static generator. Got some red sealing wax and tried to make a vacuum tube, but no luck. Silver wire used on stone makes a rectifier.

From this one entry it is possible to glean a lot of information regarding what was to become Moray's greatest secret. The "Swedish Stone" was the very heart of the radiant energy device and constituted the simplest free energy device in its own right.

In a traditional galena detector, the crystal is held in place by a conducting mount. The other connection to the crystal is made via a silver wire (known as a "cat's whisker"). This silver wire is then slowly moved over the crystal surface in search of a single point where rectification will occur.

Another comment noted is that a battery was of no use in priming the stone; also, there is mention of a static generator. Some crystals (like silicon carbide) required a small voltage across them, typically up to 3 volts, to enable them to operate correctly as detectors; this voltage was often supplied by a battery. In later years when Moray gave demonstrations of his device, he would often have to "prime" the apparatus with an electrostatic generator. It appears, then, that a high voltage had to be applied to the stone to make it operate. As a battery was ineffective in doing this, yet a static generator was ideal, this leads one to conclude that a high-voltage, low-current source was required in the process of priming.

Most crystal sets have the ability to receive radio broadcasts without the need of an external power source—unlike modern radio receivers which require a battery. However, with a crystal set you must use high-impedance headphones to listen in to radio stations, as the amount of energy received is extremely small and there is certainly not enough power to drive a loudspeaker. When Moray constructed his own crystal set using the Swedish Stone as a detector, not only was he able to drive a loudspeaker directly but with some further modifications he could draw enough energy to power a miniature arc lamp.

Also mentioned was the need of a vacuum, a requirement not usually associated with ordinary galena crystal detectors. The electrical current that was generated by Moray's device was of high frequency and high potential. Such currents are known for their characteristic corona discharge around an open terminal. This form of electrical discharge is considered a loss and best stopped. One of the best ways of reducing this effect is by removing the air from around the terminal, i.e., contain it within an evacuated chamber. In the case of Moray's Swedish Stone detector, the point contact formed by the silver wire and the surface of the stone may have had a substantial amount of corona discharge, in the way of a small violet glow around the wire. This is probably the reason why the crystal detector was held within an evacuated tube.

While galena detectors are placed in series with a tuned parallel LC (coil-capacitor) circuit and high-impedance headphones, the Swedish Stone detector was often connected in parallel. From an electrical point of view, this is unusual. The parallel LC circuit is tuned into the frequency of the radiowaves to be received, and the galena crystal then simply blocks this current on one of its reversals. This is *rectification*, the principle behind a normal crystal set. In the case of Moray's apparatus, the Swedish Stone appears to do more than simply rectify the radiofrequency energy, considering its place in the circuit. Moray may again be able to shed some light on this. In his book, *The Sea of Energy in which the Earth Floats*, Moray makes the following statement:

> The electric motor and generator would never have been discovered if a dielectric (insulation) had not been discovered. If one discovers a dielectric valve for the energy of the universe and a means of making this device

Continued on page 87

Continued from page 46

oscillate with the oscillating energy of the universe, one has the answer to harnessing the energy of the universe.

Now, the Swedish Stone appears to be more a dielectric than a rectifier; this explains the position of this detector in the Moray crystal set receiver. It is a well known fact that detector crystals, such as galena, possess an electrical capacity from 1nF to 100 pF.

Meanwhile, the modern semiconductor diodes that are used today instead of crystals have very little capacitance or none at all. A coil and capacitor form the resonating part of the circuit; altering the value of either will cause a shifting in the frequency of resonance. This is a fundamental principle in radio design. Resonance occurs because of the time it takes for the coil and capacitor to store and release energy. In the case of the coil, energy is stored in a magnetic field, while in a capacitor it is stored by the polarisation of molecules in its dielectric. The Swedish Stone forms part of the tuned circuit capacitor, and so fulfils the requirement stated by Moray above: a dielectric oscillating with the oscillations of the universe.

The discovery that certain rocks possess the ability to receive cosmic radiation is very reminiscent of the discoveries made by Thomas Townsend Brown. Brown had discovered that the electrical resistance of high-K dielectrics would alter with the movement of astronomical bodies, such as the Moon. With further research he found that these same materials had radio-frequency electrical impulses appear across them. Finally he discovered that naturally formed rocks were able to rectify and accumulate these electrical impulses. For instance, basaltic rocks and granites developed voltages of around 700 mV when he measured them. Brown had always suggested that the energy received by the rocks was gravitational in nature; however, he had always entertained the idea that it might be some other form of energy. Either way, he referred to it as *cosmic radiation*—the same name given by Moray.

References

• *Tesla's Experiments with Alternate Currents of High Potential and High Frequency*, Lindsay Publications, Inc., Illinois, USA, 1986 (ISBN 0-917914-39-2). From a Tesla lecture postscript in London in the 1890s; first published in 1904 by McGraw, New York.

• US Patent No. 685,957, "Apparatus for the Utilization of Radiant Energy", and US Patent No. 685,958, "Method of Utilizing Radiant Energy". See www.keelynet.com/tesla/.

• John E. Moray, *The Sea of Energy*, Cosray Research Institute, Inc., 1978, 5th ed. T. Henry Moray's book, *The Sea of Energy in which the Earth Floats*, is now chapter 7 of John E. Moray's book, *The Sea of Energy*.

• Elmer G. Osterhoudt, "Crystal Detectors", Modern Radio Laboratories, 1938, 1954 (2nd edition). See website www.modernradiolabs.com.

• T. T. Brown, "Anomalous Diurnal and Secular Variations in the Self-Potential of Certain Rocks", March 22, 1975, Honolulu, Hawaii, USA; see www.soteria.com/brown/docs/epetro/secular.htm.

About the Author:

Gavin Dingley has spent several years researching forgotten scientific discoveries and inventions, principally those in the field of electromagnetism and related subtle energies. His main goal is to reproduce many of these discoveries and devices, specifically those relating to Earth energies. Gavin's article, "ParaSETI: ET Contact via Subtle Energies", appeared in NEXUS 8/01.

Continued next issue...